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10/612,372	07/02/2003	Juyoung Park	51876P347	3711

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EXAMINER
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DUONG, CHRISTINE T

ART UNIT	PAPER NUMBER
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2609

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/612,372

Applicant(s)

PARK ET AL.

Examiner

Christine Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) ✓
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08) ✓
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Information Disclosure Statement*

The references listed in the Information Disclosure Statement, filed on 02 July 2003, have been considered by the examiner (see attached PTO-1449 form or PTO/SB/08A and 08B forms).

### *Claim Objections*

2. **Claims 1-4** are objected to because of the following informalities:

Regarding **Claim 1**, it is unclear whether the limitations "a request for allocating resource", in Lines 4, 10 and 17, are intended to be the same as or different from each other. For clarity, it is suggested to rewrite "a request for allocating resource" in Line 4 as --an allocating resource request-- and if the limitations are to mean the same, it is suggested to rewrite "a request for allocating resource" in Lines 10 and 17 as --the allocating resource request--.

Additionally, regarding **Claim 1**, it is unclear whether the limitations "a request for transferring data", in Lines 8, 14 and 20, are intended to be the same as or different from each other. For clarity, it is suggested to rewrite "a request for transferring data" in Line 8 as --a transferring data request-- and if the limitations are to mean the same, it is suggested to rewrite "a request for transferring data" in Lines 14 and 20 as --the transferring data request--.

Additionally, regarding **Claim 1**, it is unclear whether the limitations “a first path”, in Line 18 and “the first path”, in Line 20, are intended to be the same as or different from the limitation “the first path” recited in Line 7. If they are different, it is suggested to rewrite “a first path” in Line 18 and “the first path”, in Line 20 as --a third path-- and --the third path--, respectively.

Additionally, regarding **Claim 1**, it is unclear whether the limitations “a path”, in Lines 6, 12 and 19, are intended to be the same as or different from the limitations “a first path” recited in Line 5, “a second path” recited in Line 11, or “a first path” recited in Line 18. It is suggested to rewrite “a path” in Lines 6, 12 and 19 as their respective antecedent.

Additionally, regarding **Claim 1**, it is unclear whether the limitations “a transmitter”, in Lines 11 and 15, are intended to be the same as or different from the limitation “a transmitter” recited in Line 3. If they are the same, it is suggested to rewrite “a transmitter” in Lines 11 and 15 as --the transmitter--.

Additionally, regarding **Claim 1**, it is unclear whether the limitations “a QoS data rate”, in Lines 11 and 18, are intended to be the same as or different from the limitation “the QoS data rate” recited in Line 7. If they are the same, it is suggested to rewrite “a QoS data rate” in Lines 11 and 18 as --the QoS data rate--, respectively.

Additionally, regarding **Claim 1**, it is unclear whether the limitations “the QoS core routing means”, in Lines 17 and 21, are intended to be the same as or different from the limitation “at least one QoS core routing means” recited in Line 9. If they are the same, it is suggested to rewrite “the QoS core routing means” in Lines 17 and 21 as --the at least one QoS core routing means--.

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Regarding **Claim 2**, it is unclear whether the limitation “the QoS edge routing means”, in Line 2, is intended to be part of the transmitter or the receiver, as described in Claim 1, Lines 3 and 16.

Regarding **Claim 3**, it is unclear whether the limitations “a path”, in Line 7 and “the resource path”, in Line 10, are intended to be the same as or different from the limitation “a path” recited in Line 4. If they are the same, it is suggested for Applicant to stay consistent with terminology; for example, use “a path” in Line 4 and “the path” in Lines 7 and 10, otherwise “a resource path” in Line 4 and “the resource path” in Lines 7 and 10.

Additionally, regarding **Claim 3**, for clarity, it is suggested to rewrite “a request for allocating resource” in Line 3 as --an allocating resource request—and “a request for transferring data” in Line 8 as --a transferring data request--.

Additionally, regarding **Claim 3**, it is unclear whether the limitation “the edge router at the receiver”, in Line 12, is intended to be the same as or different from the limitation “a QoS edge router at a receiver” recited in Line 6. If it is the same, it is suggested to rewrite “the edge router at the receiver” in Line 12 as --the QoS edge router at the receiver --.

Regarding **Claim 4**, it is unclear whether the limitations “a path”, in Line 9 and “the resource path”, in Line 12, are intended to be the same as or different from the limitation “a path” recited in Line 6. If they are the same, it is suggested for Applicant to stay consistent with terminology; for example, use “a path” in Line 6 and “the path” in Lines 9 and 12, otherwise “a resource path” in Line 6 and “the resource path” in Lines 9 and 12.

Additionally, regarding **Claim 4**, for clarity, it is suggested to rewrite “a request for allocating resource” in Line 5 as --an allocating resource request—and “a request for transferring data” in Line 10 as --a transferring data request--.

Additionally, regarding **Claim 4**, it is unclear whether the limitation “the edge router at the receiver”, in Line 14, is intended to be the same as or different from the limitation “a QoS edge router at a receiver” recited in Line 8. If it is the same, it is suggested to rewrite “the edge router at the receiver” in Line 14 as --the QoS edge router at the receiver --.

Regarding **Claim 3 and 4**, for clarity, it is suggested for Applicant to rewrite “a)” and “b)” as --(a)-- and --(b)--, respectively.

For the examination on the merits, the claims will be interpreted as best understood. Appropriate correction is required.

***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. **Claim 4** is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding **Claim 4**, the claimed “computer readable recording medium implemented in a high capacity microprocessor” is non-statutory subject matter since it is not a process, machine, manufacture nor composition of matter; nor it is recorded on computer-readable medium, see MPEP 2106(IV)(B)(1).

**Claim 4** lacks the proper preamble language for statutory computer program product. See MPEP 2100 for guidance on computer related inventions.

The examiner suggest a preamble as follows:

"A computer readable medium containing computer executable instructions to perform a method, the method comprising:"

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1-4** are rejected under 35 U.S.C. 102(b) as being anticipated by Krishnamurthy et al. (PG Pub US 2001/0025310 A1).

Regarding **Claim 1**, Krishnamurthy et al. discloses a routing apparatus for guaranteeing Quality of Service (QoS) in the Internet (**Figs. 1 and 4**), comprising:

a QoS edge routing means at a transmitter (**network ingress edge element 102, Fig. 1 or 404, Fig. 4**; where "the term "edge router" shall be understood as including an ingress edge element", [0034]) for receiving a request for allocating resource from a transmitting node (QUERY message: "QUERY packet 402 that travels from the source node 400 to the network ingress edge element 404 ... With the QUERY packet 402 the source node 400 indicates the QoS level it is requesting", [0091]), setting a first path at a QoS data rate by signaling for setting a path (ACK message: "Routing list (Lrouter): This list indicates the address of the

**core routers traversed by the request messages”, [0056] and “The amount and level of reserved resources is translated to a data transfer rate having a specific quality of service level”, [0035]) and transferring data at the QoS data rate through the first path by receiving a request for transferring data from the transmitting node (“the architecture allows for the establishment of a data flow when a source node 100 transmits a reservation packet to an ingress edge element 102” [0025]);**

**at least one QoS core routing means (plurality of core routers 106, Fig. 1 or 406, Fig. 4) for receiving a request for allocating resource from the QoS edge routing means at a transmitter (“The QUERY packet 402 then travels through a plurality of routers 406 ... With the QUERY packet 402 the source node 400 indicates the QoS level it is requesting”, [0091]), setting a second path at a QoS data rate by signaling for setting a path (ACK message: “Routing list (Lrouter): This list indicates the address of the core routers traversed by the request messages”, [0056] and “The amount and level of reserved resources is translated to a data transfer rate having a specific quality of service level”, [0035]) and transferring data at the QoS data rate through the second path by receiving a request for transferring data from the QoS edge routing means at a transmitter (“the architecture allows for the establishment of a data flow when ... the ingress edge element 102 registers the reservation and forwards the request to the first of the core routers 106”, [0025]); and**

**a QoS edge routing means at a receiver (network egress edge element 108, Fig. 1 or 408, Fig. 4; where “the term “edge router” shall be understood as including ... an egress edge element”, [0034]) for receiving a request for allocating**



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resource from the QoS core routing means (**"The QUERY packet 402 then travels through a plurality of routers 406 to the egress edge element 408 ... With the QUERY packet 402 the source node 400 indicates the QoS level it is requesting", [0091]**), setting a first path at a QoS data rate by signaling for setting a path (**ACK message: "Routing list (Lrouter): This list indicates the address of the core routers traversed by the request messages", [0056] and "The amount and level of reserved resources is translated to a data transfer rate having a specific quality of service level", [0035]**) and transferring data at the QoS data rate through the first path by receiving a request for transferring data from the QoS core routing means (**"the architecture allows for the establishment of a data flow when ... the core router 106 will either reject, accept, or modify the received request, indicate the price for the requested level of service, and forward the reservation to the next hop along the path to the destination, where the process is repeated until the reservation packet reaches the destination node 110", [0025]**).

Regarding **Claim 2**, Krishnamurthy et al. discloses everything claimed as applied above (see *Claim 1*). In addition, the QoS edge routing means monitors whether a quantity of data transferred from the transmitting node is smaller than the allocated resource (**"Packets sent in excess of the reserved network resources violate the source's service profile, (which was established during the reservation setup)", [0031]**).

Regarding **Claims 3 and 4**, Krishnamurthy et al. discloses a routing method for guaranteeing Quality of Service (QoS) in the Internet (**Figs. 1 and 4**), comprising the steps of:

a) receiving a request for allocating resource from a transmitting node and setting a path to a receiving node at a QoS data rate by signaling of each router, a QoS edge router at a transmitter (**network ingress edge element 102, Fig. 1 or 404, Fig. 4;** where **“the term “edge router” shall be understood as including an ingress edge element”, [0034]**), a QoS core router (**plurality of core routers 106, Fig. 1 or 406, Fig. 4**) and a QoS edge router at a receiver (**network egress edge element 108, Fig. 1 or 408, Fig. 4;** where **“the term “edge router” shall be understood as including ... an egress edge element”, [0034]**), for setting a path (**QUERY message: “QUERY packet 402 that travels from the source node 400 to the network ingress edge element 404. The QUERY packet 402 then travels through a plurality of routers 406 to the egress edge element 408 and finally to the destination node 410. With the QUERY packet 402 the source node 400 indicates the QoS level it is requesting, the amount of resources to reserve”, [0091]; and ACK message: “Routing list (Lrouter): This list indicates the address of the core routers traversed by the request messages”, [0056] and “The amount and level of reserved resources is translated to a data transfer rate having a specific quality of service level”, [0035]**); and

b) receiving a request for transferring data from the transmitting node and transferring data at the QoS data rate to the receiving node through the resource path reserved by the QoS edge router at the transmitter, the QoS core router and the edge router at the receiver (**“the architecture allows for the establishment of a data flow when a source node 100 transmits a reservation packet to an ingress edge element 102, the ingress edge element 102 registers the reservation and forwards**

the request to the first of the core routers 106, the core router 106 will either reject, accept, or modify the received request, indicate the price for the requested level of service, and forward the reservation to the next hop along the path to the destination, where the process is repeated until the reservation packet reaches the destination node 110" [0025]);

***Citation of Pertinent Prior Art***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Matsubara et al.** (PG Pub US 2004/0202159 A1) discloses a core network that includes a number of relay nodes and edge nodes, intercoupled by network links, interconnects a plurality data transfer entities through gateway elements. Each gateway element is allocated a portion of the data communicating (QoS) resource of certain of the links, and maintains information of that allocation.

**Kobayashi** (US Patent No. 6,977,896 B1) discloses an IP communications network system comprising a first QoS guaranteeing apparatus including a distinguishing unit for classifying target traffics in order to guarantee, based on a QoS guarantee protocol, a quality of a set of specified data packets accordant with a specified condition among data packets transmitted from a multiplicity of data communications terminals.

**Fukuda et al.** (PG Pub US 2002/0067729 A1) discloses a network management apparatus for ATM communication, retrieves route to guarantee predetermined QoS from routes between source and destination network elements.

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**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Duong whose telephone number is (571) 270-1664. The examiner can normally be reached on Monday - Friday: 830 AM-6 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CTD 05/22/2007

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